Aeronautics Educator Guide			
2009 Science			
Core Curriculum			
Iowa Science			
Grades K-2			
Activity/Lesson	**State**	**Standards**	
Air Engines (12-16)	IA	SCI.K-2.1.1.1	Students should answer their questions by seeking information from their own observations, investigations and from reliable sources of scientific information.
Air Engines (12-16)	IA	SCI.K-2.3.1.1	Objects have many observable properties including size, weight, shape, color, temperature and the ability to react with other substances. Those properties can be measured using tools such as rulers, balances and thermometers.
Air Engines (12-16)	IA	SCI.K-2.3.3.2	An object's motion can be described by observing and measuring its position over time.
Air Engines (12-16)	IA	SCI.K-2.3.3.3	An object's position or movement can be changed by pushing or pulling.
Rotor Motor (69-75)	IA	SCI.K-2.1.1.1	Students should answer their questions by seeking information from their own observations, investigations and from reliable sources of scientific information.
Rotor Motor (69-75)	IA	SCI.K-2.1.2.1	In earliest years, investigations are largely based on direct observations. As students develop, they design and conduct simple investigations to answer questions.
Rotor Motor (69-75)	IA	SCI.K-2.1.2.2	It is important to follow appropriate safety procedures when conducting investigations.
Rotor Motor (69-75)	IA	SCI.K-2.1.7	Follow appropriate safety procedures when conducting investigations.
Rotor Motor (69-75)	IA	SCI.K-2.3.3.1	The position of an object can be described by locating it relative to its background.
Rotor Motor (69-75)	IA	SCI.K-2.3.3.2	An object's motion can be described by observing and measuring its position over time.
Rotor Motor (69-75)	IA	SCI.K-2.3.3.3	An object's position or movement can be changed by pushing or pulling.
Flight: Interdisciplinary Learning Activities (76-79)	IA	SCI.K-2.1.2.1	In earliest years, investigations are largely based on direct observations. As students develop, they design and conduct simple investigations to answer questions.
Flight: Interdisciplinary Learning Activities (76-79)	IA	SCI.K-2.1.2.2	It is important to follow appropriate safety procedures when conducting investigations.
Flight: Interdisciplinary Learning Activities (76-79)	IA	SCI.K-2.1.7	Follow appropriate safety procedures when conducting investigations.

Where is North? The Compass Can Tell Us (87-90)	IA	SCI.K-2.1.1.1	Students should answer their questions by seeking information from their own observations, investigations and from reliable sources of scientific information.
Where is North? The Compass Can Tell Us (87-90)	IA	SCI.K-2.1.2.1	In earliest years, investigations are largely based on direct observations. As students develop, they design and conduct simple investigations to answer questions.
Where is North? The Compass Can Tell Us (87-90)	IA	SCI.K-2.1.2.2	It is important to follow appropriate safety procedures when conducting investigations.
Where is North? The Compass Can Tell Us (87-90)	IA	SCI.K-2.1.7	Follow appropriate safety procedures when conducting investigations.
Plan to Fly There (97-106)	IA	SCI.K-2.1.6.2	Students should communicate orally, through writing or through drawings.
Dunked Napkin (17-22)	IA	SCI.K-2.1.1.1	Students should answer their questions by seeking information from their own observations, investigations and from reliable sources of scientific information.
Dunked Napkin (17-22)	IA	SCI.K-2.1.6.1	Students should begin to develop the abilities to communicate, critique, and analyze their work and the work of other students.
Dunked Napkin (17-22)	IA	SCI.K-2.3.1.3	Objects can be described by the properties of the materials from which they are made. Properties can be used to separate or sort a group of objects or materials.
Paper Bag Mask (23-28)	IA	SCI.K-2.1.1.1	Students should answer their questions by seeking information from their own observations, investigations and from reliable sources of scientific information.
Paper Bag Mask (23-28)	IA	SCI.K-2.3.1.1	Objects have many observable properties including size, weight, shape, color, temperature and the ability to react with other substances. Those properties can be measured using tools such as rulers, balances and thermometers.
Paper Bag Mask (23-28)	IA	SCI.K-2.3.3.2	An object's motion can be described by observing and measuring its position over time.
Wind in Your Socks) (29-35)	IA	SCI.K-2.1.1.1	Students should answer their questions by seeking information from their own observations, investigations and from reliable sources of scientific information.
Wind in Your Socks) (29-35)	IA	SCI.K-2.1.3.1	Students use tools such as rulers, thermometers, watches, balances, spring scales, magnifiers and microscopes to extend their senses and their abilities to gather data.
Wind in Your Socks) (29-35)	IA	SCI.K-2.3.1.1	Objects have many observable properties including size, weight, shape, color, temperature and the ability to react with other substances. Those properties can be measured using tools such as rulers, balances and thermometers.

Bag Balloons (40-43)	IA	SCI.K-2.3.2.2	Some common materials, such as water, can be changed from one state to another by heating or cooling.
Sled Kite (44-51)	IA	SCI.K-2.3.1.1	Objects have many observable properties including size, weight, shape, color, temperature and the ability to react with other substances. Those properties can be measured using tools such as rulers, balances and thermometers.
Aeronautics Educator Guide			
2009 Science			
Core Curriculum			
Iowa Science			
Grades 3-5			
Activity/Lesson	**State**	**Standards**	
Air Engines (12-16)	IA	SCI.3-5.1.1.1	Students ask questions that they can answer with scientific knowledge combined with their own observations.
Air Engines (12-16)	IA	SCI.3-5.1.1.2	Students recognize that different questions lead to different types of investigations.
Air Engines (12-16)	IA	SCI.3-5.1.2.1	Types of investigations include describing objects, events, and organisms; classifying them; and doing a fair test (experimenting), depending on the types of questions they want to answer.
Air Engines (12-16)	IA	SCI.3-5.1.4.3	Students' use of appropriate tools is guided by the questions asked and the investigations students design.
Air Engines (12-16)	IA	SCI.3-5.3.1.1	It may be necessary to use magnification to observe the component parts of some materials.
Air Engines (12-16)	IA	SCI.3-5.3.1.3	The properties of a substance can be measured using tools and technology.
Air Engines (12-16)	IA	SCI.3-5.3.5.1	The motion of an object can be described by its position, direction of motion, and speed. That motion can be measured and represented on a graph.
Air Engines (12-16)	IA	SCI.3-5.3.5.2	Changes in speed or direction of motion are caused by forces. The greater the force, the greater the change in motion. The more massive an object, the less effect a given force will have in changing its motion.
Rotor Motor (69-75)	IA	SCI.3-5.1.1.1	Students ask questions that they can answer with scientific knowledge combined with their own observations.
Rotor Motor (69-75)	IA	SCI.3-5.1.3.3	Students follow appropriate safety procedures when conducting investigations.
Rotor Motor (69-75)	IA	SCI.3-5.1.4.2	Students are introduced to the use of computers and calculators for conducting investigations.
Rotor Motor (69-75)	IA	SCI.3-5.1.8	Follow appropriate safety procedures when conducting investigations.

Rotor Motor (69-75)	IA	SCI.3-5.3.5.1	The motion of an object can be described by its position, direction of motion, and speed. That motion can be measured and represented on a graph.
Rotor Motor (69-75)	IA	SCI.3-5.3.5.2	Changes in speed or direction of motion are caused by forces. The greater the force, the greater the change in motion. The more massive an object, the less effect a given force will have in changing its motion.
Flight: Interdisciplinary Learning Activities (76-79)	IA	SCI.3-5.1.3.3	Students follow appropriate safety procedures when conducting investigations.
Flight: Interdisciplinary Learning Activities (76-79)	IA	SCI.3-5.1.4.2	Students are introduced to the use of computers and calculators for conducting investigations.
Flight: Interdisciplinary Learning Activities (76-79)	IA	SCI.3-5.1.8	Follow appropriate safety procedures when conducting investigations.
Flight: Interdisciplinary Learning Activities (76-79)	IA	SCI.3-5.3.5.1	The motion of an object can be described by its position, direction of motion, and speed. That motion can be measured and represented on a graph.
Flight: Interdisciplinary Learning Activities (76-79)	IA	SCI.3-5.3.5.2	Changes in speed or direction of motion are caused by forces. The greater the force, the greater the change in motion. The more massive an object, the less effect a given force will have in changing its motion.
Where is North? The Compass Can Tell Us (87-90)	IA	SCI.3-5.1.1.1	Students ask questions that they can answer with scientific knowledge combined with their own observations.
Where is North? The Compass Can Tell Us (87-90)	IA	SCI.3-5.1.1.2	Students recognize that different questions lead to different types of investigations.
Where is North? The Compass Can Tell Us (87-90)	IA	SCI.3-5.1.3.3	Students follow appropriate safety procedures when conducting investigations.
Where is North? The Compass Can Tell Us (87-90)	IA	SCI.3-5.1.4.2	Students are introduced to the use of computers and calculators for conducting investigations.
Where is North? The Compass Can Tell Us (87-90)	IA	SCI.3-5.1.8	Follow appropriate safety procedures when conducting investigations.
Where is North? The Compass Can Tell Us (87-90)	IA	SCI.3-5.3.4.4	Magnets attract and repel each other and certain kinds of other materials.
Plan to Fly There (97-106)	IA	SCI.3-5.3.5.1	The motion of an object can be described by its position, direction of motion, and speed. That motion can be measured and represented on a graph.

Plan to Fly There (97-106)	IA	SCI.3-5.3.5.2	Changes in speed or direction of motion are caused by forces. The greater the force, the greater the change in motion. The more massive an object, the less effect a given force will have in changing its motion.
We Can Fly, You and I: Interdisciplinary Learning (107-108)	IA	SCI.3-5.4.2.2	Humans change environments in ways that can be either beneficial or detrimental to themselves or other organisms.
Dunked Napkin (17-22)	IA	SCI.3-5.1.1.1	Students ask questions that they can answer with scientific knowledge combined with their own observations.
Dunked Napkin (17-22)	IA	SCI.3-5.1.1.2	Students recognize that different questions lead to different types of investigations.
Dunked Napkin (17-22)	IA	SCI.3-5.1.2.1	Types of investigations include describing objects, events, and organisms; classifying them; and doing a fair test (experimenting), depending on the types of questions they want to answer.
Dunked Napkin (17-22)	IA	SCI.3-5.1.3.3	Students follow appropriate safety procedures when conducting investigations.
Dunked Napkin (17-22)	IA	SCI.3-5.1.4.3	Students' use of appropriate tools is guided by the questions asked and the investigations students design.
Dunked Napkin (17-22)	IA	SCI.3-5.1.6.2	Students should judge the merits or strengths of the data and information used to make explanations.
Dunked Napkin (17-22)	IA	SCI.3-5.1.7.1	Students should communicate, critique, and analyze their work and the work of other students.
Dunked Napkin (17-22)	IA	SCI.3-5.1.8	Follow appropriate safety procedures when conducting investigations.
Paper Bag Mask (23-28)	IA	SCI.3-5.1.1.1	Students ask questions that they can answer with scientific knowledge combined with their own observations.
Paper Bag Mask (23-28)	IA	SCI.3-5.1.1.2	Students recognize that different questions lead to different types of investigations.
Paper Bag Mask (23-28)	IA	SCI.3-5.1.2.1	Types of investigations include describing objects, events, and organisms; classifying them; and doing a fair test (experimenting), depending on the types of questions they want to answer.
Paper Bag Mask (23-28)	IA	SCI.3-5.1.4.3	Students' use of appropriate tools is guided by the questions asked and the investigations students design.
Paper Bag Mask (23-28)	IA	SCI.3-5.3.1.3	The properties of a substance can be measured using tools and technology.
Paper Bag Mask (23-28)	IA	SCI.3-5.3.5.1	The motion of an object can be described by its position, direction of motion, and speed. That motion can be measured and represented on a graph.
Wind in Your Socks) (29-35)	IA	SCI.3-5.1.1.1	Students ask questions that they can answer with scientific knowledge combined with their own observations.

Wind in Your Socks) (29-35)	IA	SCI.3-5.1.1.2	Students recognize that different questions lead to different types of investigations.
Wind in Your Socks) (29-35)	IA	SCI.3-5.1.2.1	Types of investigations include describing objects, events, and organisms; classifying them; and doing a fair test (experimenting), depending on the types of questions they want to answer.
Wind in Your Socks) (29-35)	IA	SCI.3-5.1.4.1	Students enhance their skills with tools such as rulers, thermometers, balances, spring scales, magnifiers and microscopes.
Wind in Your Socks) (29-35)	IA	SCI.3-5.1.4.3	Students' use of appropriate tools is guided by the questions asked and the investigations students design.
Wind in Your Socks) (29-35)	IA	SCI.3-5.1.5.1	Mathematics is used to gather, organize and present data and to construct convincing explanations.
Wind in Your Socks) (29-35)	IA	SCI.3-5.1.6.4	Students should check their explanations against scientific knowledge, their own experiences, and observations of others.
Wind in Your Socks) (29-35)	IA	SCI.3-5.3.1.1	It may be necessary to use magnification to observe the component parts of some materials.
Bag Balloons (40-43)	IA	SCI.3-5.1.1.1	Students ask questions that they can answer with scientific knowledge combined with their own observations.
Sled Kite (44-51)	IA	SCI.3-5.1.1.1	Students ask questions that they can answer with scientific knowledge combined with their own observations.